

Work Order ID 63961

November 22, 2010 10:02:21 AM



Page 1

Item ID: D3139-4

Accept



Setup Start



Revision ID:

Stop



Item Name: Guard

Start Date: 11/22/10 Start Qty: 8.00



Cust Item ID:

Required Date: 11/30/10 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

Draw Nbr

Revision Nbr

D3139

Rev B

100

0.00

B 10-11-23

PTO. →



Prep Line Bender

HandThermo

Memo

0.00

Hand Finishing Thermoforming

Plug in line bender and allow to warm for 5 minutes

⑧

110

0.00



Cut Sheet

HandThermo

Memo

0.00

Hand Finishing Thermoforming

Cut blanks 3-1/2" x 4-1/2" x 0.125" Lexan

N/A. see PTO 10.11.30

W/O: 63961		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/11/23	100 110 130.	Parts cut and holes made on waterjet.	Wh	10/11/23	8.	10.11.29	10/11/23

Part No: D3139-4 PAR #: _____ Fault Category: Thermoforming NCR: (Yes) No DQA: / Date: 10-12-02
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: / Date: 10/12/02

NCR: 63961		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10/11/25	130.	Holes too large to properly countersink P.C. Tooling: <u>Lead</u> when countersinking	10.11.29	Scrap & Replace 8 parts Make smaller holes in waterjet program.	10/11/25 Wh 10.12.01	10/11/29	10.11.29	10/11/2
		there was no correct size of tip to match the holes size.	10/11/2	New c'sink bits ordered & with smaller holes will allow a proper c'sink with out any stop in the holes.	N/A			

NOTE: Date & initial all entries

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QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

0.00



Thermoform

Thermoforming Machine

Form on Line Bender

Memo

0.00

1) Heat the part at 1.0" (on the 4-1/2" length) centered to the element flipping over once.

Bend the soften plastic to 90 degrees

Allow to cool for 1 minute

Place the 1.0" bent angle down on the short side of the line bender and push to the edge. Heat the plastic at this location flipping once then bend the plastic in the opposite direction of the first bend to 90 degrees and let cool for 1 minute.

x 8.

Wh.
10/11/23

x 10.

Wh.
10/11/25

130

0.00



HandThermo

Hand Finishing Thermoforming

Trim & drill

Memo

0.00

1) Mark the part using dart jig DT9695 and trim the part.

2) Then drill the part using a 0.203" drill bit where the drill holes are marked then countersink as per dwg. D3139-3 and deburr

x 10.

Wh.
10/11/25

See PTO Page 1

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Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

x 8.

Wh
10/11/23.

x 10.

Wh
10/16/25

150

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

-8 10/11/29

(x10)
-4

160

Identify as per dwg & Stock Location: 35

0.00



Packaging

Memo

0.00

Packaging

10/11/29 cl (100)

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Page 4

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Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

OK

10/11/30

MF

10-11-29

Picklist Print

November 22, 2010 10:02:19 AM

Page 1

Work Order ID: 63961

Parent Item: D3139-4

Parent Item Name: Guard



Start Date: 11/22/10

Required Date: 11/30/10

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:A New Issue Form In-house 10/11/19 DL verf:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.125-9034-01		Purchased	No			110	sf	112.0000	0.125	1.052632			



1/8" 9034 Lexan Sheet



13b-11-23

Location

Loc Qty

Loc Code

MAT

112

106173

4

106403

12

115861

96

115861

8

DART AEROSPACE LTD		Work Order:	63961
Description:		Part Number:	03139-4
Inspection Dwg:	Rev:	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST
THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Inside Radii less than _____"				
Shape Definition				
Texture Retention				
Material imperfections such as bumps, cracks, voids, scratching				

Measured by: _____

Date: _____

TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.0"		2.99"	✓			
2.25"		2.22"	✓			also 2.12
1.00"		1.00"	✓			
1.75"		1.75"	✓			
2.20"		2.2"	✓			
Ø 0.203"		0.204"	✓			
0.70	±0.030	0.80		✗		Acceptable 10.11.29

Measured by: Bh.

Date: 10/11/23

Audited by: S

Date: 10/14/23

Preliminary Approval: _____

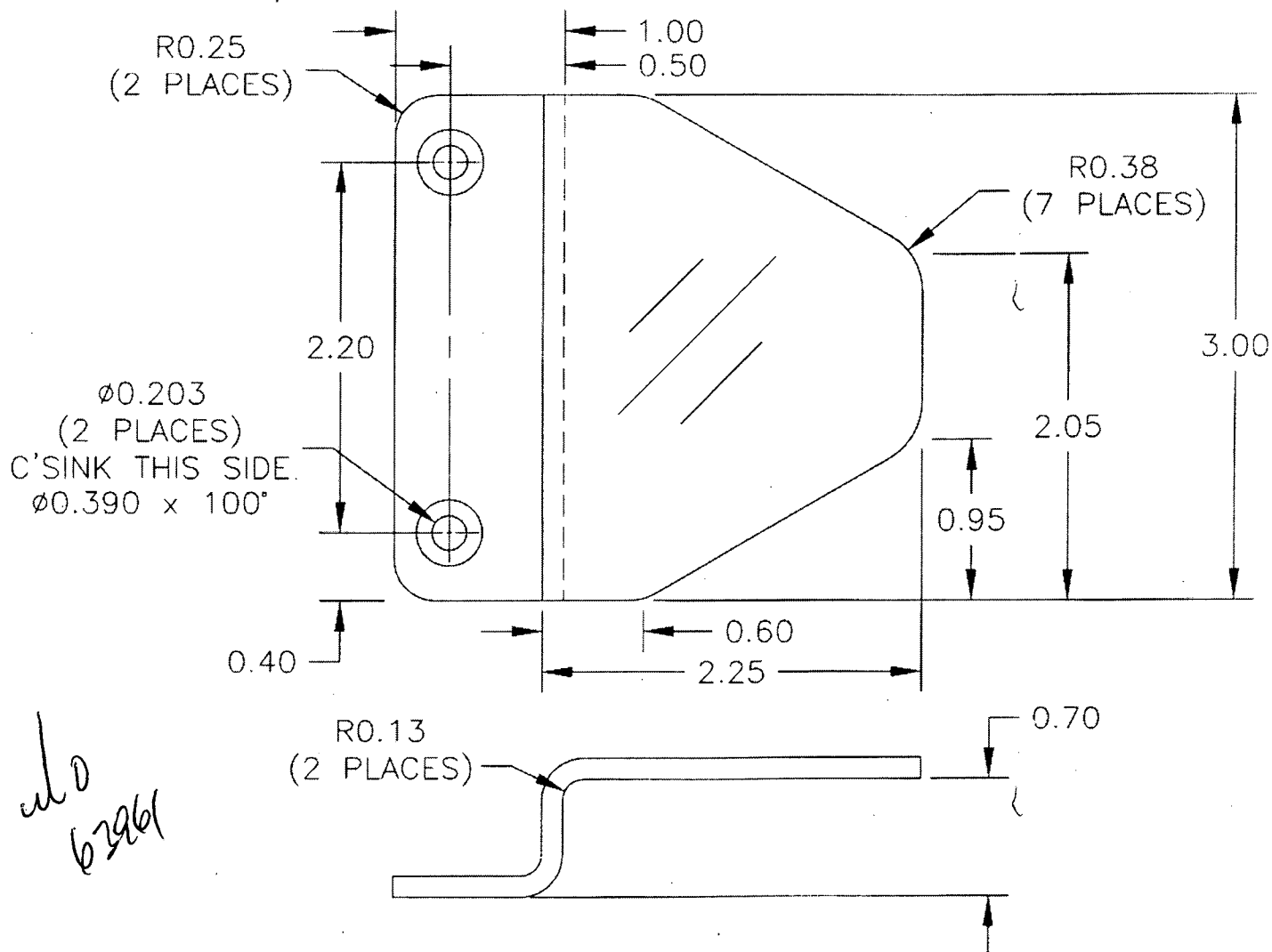
Date: _____

Rev	Date	Change	Revised by	Approved
B	10.04.14	Added preliminary approval	KJ	

10.04.14



DESIGN #	DRAWN BY 13	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3139	REV. B SHEET 1 OF 2
DATE 04.10.18		TITLE GUARD	SCALE 1:1
A	02.04.19	NEW ISSUE	
B	04.10.18	ADD PART MARKING	



D3139-1 GUARD

REPLACES PREMIER P/N B30-23000-237/-238

NOTES

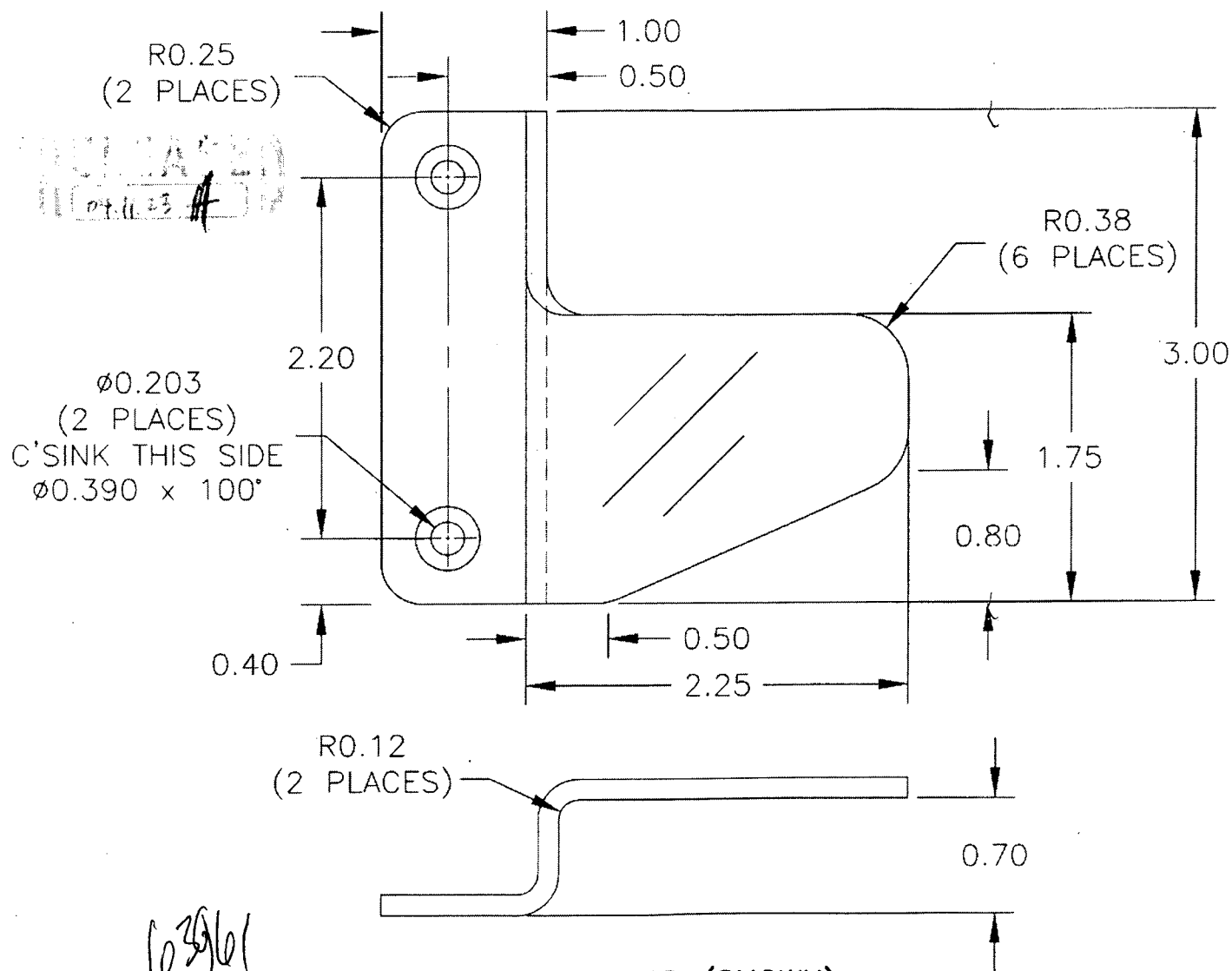
- 1) MATERIAL: 0.125 THICK LEXAN SHEET
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

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DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3139	REV. B SHEET 2 OF 2
DATE 04.10.18		TITLE GUARD	SCALE 1:1



D3139-3 GUARD (SHOWN)
D3139-4 GUARD (OPP)

NOTES

- 1) D3139-3 REPLACES PREMIER P/N B30-23000-239
D3139-4 REPLACES PREMIER P/N B30-23000-240
- 2) MATERIAL: 0.125 THICK LEXAN SHEET
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

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